



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: AE3007A BYPASS RATIO: 5.2  
 UNIQUE ID NUMBER: 4AL003 PRESSURE RATIO ( $\pi_{00}$ ): 18.1  
 COMBUSTOR: RATED THRUST ( $F_{00}$ ) (kN): 33.7  
 ENGINE TYPE: MTF

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	8.7	49.2	50.9	1.2
AS % OF ORIGINAL LIMIT	44.1	41.7	66.8	3.7
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			83.6	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			85.6	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			86.6	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			92.4	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
 x DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	0.377	0.25	0.75	20.54	1.0
CLIMB OUT	85	2.2	0.315	0.29	0.92	17.47	0.0
APPROACH	30	4.0	0.117	0.64	3.28	7.79	0.0
IDLE	7	26.0	0.049	2.51	17.35	3.83	0.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			162	226	1468	1563	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				6.7	43.2	46.3	1.0
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.3
TEMPERATURE (K)	288
ABS HUMIDITY (kg/kg)	0.0063

### FUEL

SPEC	Jet A/JP-8
H/C	1.9
AROM (%)	16.5

MANUFACTURER: Rolls-Royce Corporation  
 TEST ORGANIZATION: Allison Engine Company  
 TEST LOCATION: Indianapolis, Indiana  
 TEST DATES: 03/03/1994-19/04/1995

### REMARKS

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)